data signals are routed to a packet-switched network. It may be noted that one of the ADSL tariffs that have been filed to date by the ILECs requires that a POTS-splitter be used and that the voice traffic be routed to the ILEC's circuit switch.[17] Although a loop can be used in this dual fashion, there is no inherent need to do so. Sprint ION, for example, will be able to handle both conventional voice and high speed data traffic through the ATM transmission mode, without any need for a POTS-splitter or use of circuit switches. When an ILEC directly offers a tariffed xDSL service, it has the right, if both it and the customer wishes, to use a POTS-splitter and to continue to provide voice service on the same loop along with xDSL service. However, it is superfluous and blatantly anticompetitive for the ILEC to require an end user to subscribe to the ILEC's basic voice service using that loop if the subscriber does not wish to, either because the subscriber wishes to use an entirely separate loop for data service, or the subscriber wishes to make use of integrated capabilities of another service provider, such as Sprint ION service, to combine both voice and other traffic over the high speed digital portion of the loop. Thus, tying the availability of xDSL service to the continued use of the ILEC's local voice service should be prohibited.

When a requesting carrier purchases an xDSL-capable loop as an unbundled network element, then it is purchasing the entire capacity of that loop. This is clear both from the definition of a local loop in §51.319(a) of the Rules,[18] and from §51.309(c) of

[17] See Pacific Bell Tariff FCC No. 128, Section 17.5.1(A).

[18] "The local loop network element is defined as a transmission facility between a distribution frame (or its equivalent) in an incumbent LEC central office and an end user customer premises."

the Rules.[19] Thus, when a carrier purchases an unbundled loop, it is not merely purchasing the portion of the loop's capacity that can be used for a high-speed digital channel. Rather, it is purchasing the use of the entire copper pair.

This form of dual use of a loop by an ILEC (where it offers xDSL services directly) raises issues that, due to the recency of the ILECs' xDSL service offerings, have not yet been fully aired, much less resolved, by federal and state regulators. These issues include (1) how the costs of the loop and related CO equipment should be allocated between the xDSL service and local voice service; (2) what implications this dual use has for the costs of, and pricing of, local service; (3) what implications dual use has for the cost and pricing of interstate and intrastate access services (e.g., should full SLCs, PICCs and CCLCs be assessed with respect to such lines); and (4) what implications such dual use has for universal service fund eligibility.

Even apart from how these issues are resolved when the ILEC directly provides both the voice and data services, it is clear that if an ILEC chooses not to offer xDSL service itself, but to use a separate affiliate to provide xDSL services or a bundled offering of xDSL and Internet access services, any sharing of the capacity of the loop with the ILEC must be strictly prohibited. To begin with, any such sharing of the facility would conflict with the requirement proposed in ¶96 that the ILEC and its affiliate must "operate independently" as that term was defined in the Non-Accounting Safeguards Order, 11 FCC Rcd 21905 (1996).[20] Furthermore, allowing any such joint use would

[19] "A telecommunications carrier purchasing access to an unbundled network facility is entitled to exclusive use of that facility... ."

[20] In ¶15 of that Order, 11 FCC Rcd at 21914, cited in ¶96 of the NPRM, the Commission defined "operate independently" to prohibit joint ownership of transmission facilities.

create too much room for anticompetitive behavior as between the ILEC and its affiliate vis-à-vis unaffiliated providers of either voice or data services. If the affiliate charged the ILEC too much for the right to provide voice service over that loop, the affiliate could be getting the data capacity for a de minimis amount, giving it an unfair competitive advantage over unaffiliated data providers. On the other hand, if it charges the ILEC too little for voice service, the ILEC will have an unnatural advantage over competing providers of voice service.

C. Uniform Standards For Attachment Of Electronic Equipment At The Central Office End of the Loop (¶163)

Sprint supports the Commission's tentative conclusion that there should be uniform national standards regarding the attachment of electronic equipment at the central office end of the loop by ILECs and carriers collocating in the central office. NEBS Level 1 certification should suffice for this purpose.

D. Unbundling Loops Passing Through Remote Terminals (¶¶165-176)

In ¶167, the Commission reiterates the ILECs' obligation to unbundle xDSL-compatible loops even where remote concentration devices, such as digital loop carriers ("DLCs") are utilized, and tentatively concludes that provisioning such loops is presumed "technically feasible" if the ILEC itself is capable of providing xDSL-based services over the loop. Sprint agrees with that tentative conclusion.

Sprint likewise agrees with the Commission's tentative conclusion in ¶168 that if the ILEC chooses to offer xDSL-based services through an advanced services affiliate, whatever loops are provided to the affiliate must also be provided to other carriers. As previously discussed, all such offerings to its affiliate must be made through public interconnection agreements or general tariffed offerings, and cannot be conditioned on

volume or term commitments that could preclude, as a practical matter, the use of the loops on the same terms by non-affiliated carriers.

Where digital loop carriers or similar remote concentration devices are employed, the provision of an xDSL-capable loop as an unbundled network element takes on added complexities. There may not be enough industry experience with provisioning such unbundled loops that all of the problems – much less the solutions – can even be identified at this time.

However, at least to place these issues in context, it is useful to briefly describe the typical loop plant configurations that can be employed. One is simply to use a digital loop carrier system as a intermediate point of concentration between end user premises and the central office. The digital loop carrier typically concentrates subscriber loops into ratios varying from 2:1 to 5:1. Thus, for example, with a 2:1 concentration ratio, 500 subscriber loops may be concentrated onto circuits having a total capacity of 250 voice grade channels for onward transmission to the central office. In a typical configuration, copper is used from the line side of the DLC to the customer premises, while either copper or (as is increasingly more common) fiber optic cable is used from the DLC to the LEC central office. The DLC is placed in a remote terminal usually housed in a subterranean vault or in an above-ground cabinet ranging in size from a household refrigerator to two refrigerators back-to-back.

Another configuration that is used by some ILECs (including Sprint LTD) to reach new subdivisions involves the use of "fiber to the curb" technology. In the case of fiber to the curb, fiber optic facilities are used from the central office to the DLC and from the DLC to a small pedestal typically serving eight homes. At the pedestal, a fiber-

copper connection is made through an Optical Network Unit ("ONU"). Then copper wire or coaxial cable is provided from the ONU to the premises.

When a requesting carrier simply wants an unbundled loop without xDSL capability, the degree of concentration at the DLC should be governed by sound economic and engineering principles. If the traffic volume of the subscribers served by a particular DLC is high, then the number of links between the DLC and the central office should be increased to avoid excessive busy signals. It is crucial that the ILEC and requesting carriers share planning and forecasting information as well as traffic performance results to ensure that high-quality service is maintained for all customers. Moreover, traffic management by the ILEC must be guided by parity and non-discrimination principles so that the quality of service on the requesting carriers' loops are comparable to those used to serve the ILEC's own end-user customers.

When a requesting carrier needs an xDSL-capable loop, the use of DLCs and fiber-to-the-curb technology greatly increases the technical complexity of meeting the requesting carrier's needs. Where DLCs are employed, the ILEC can provide an xDSL-capable loop in one of three ways. First, the ILEC can bypass the DLC and connect the subscriber's loop in the remote terminal to copper wire extending from the remote terminal to the central office. This solution will work only where the total loop length is less than 18,000 feet, and may require laying copper wire between the central office and the remote terminal. Second, the requesting carrier can collocate in the remote terminal and install its own DSLAM there, so that the xDSL subscriber's loop terminates on the DSLAM rather than on the DLC. This solution requires sufficient space in or on the ILEC's remote terminal to accommodate a collocated DSLAM, and requires the CLEC to

be able (either through its own facilities or UNEs purchased from the ILEC) to transport the data stream from its DSLAM to its network node. Third, some next generation DLCs now (or in the near future) will include a so-called "Integrated Solution" capability, in which case an xDSL line card can be plugged into the DLC instead of the ordinary POTS line card. The xDSL line card, in effect, substitutes for the need for a separate DSLAM. The requesting carrier would have to purchase an xDSL line card as an unbundled element, or furnish its own card to the ILEC, and the signal from the DLC would have to pass through an ATM switch in the ILEC's central office. As a result, use of this alternative may also make the requesting carrier's ability to obtain an xDSL-capable loop dependent on the compatibility of its equipment with the particular technology and equipment the ILEC has chosen to deploy.

Where fiber-to-the-curb technology is employed, the provision of xDSL loops requires either an all copper-loop bypass of both ONU and the DLC; a continuous copper loop from the customer premises up to the remote terminal if a DSLAM can be collocated there; or (depending on the equipment used in the ONU) it may be possible to utilize an xDSL line card in the ONU, and then use the ILEC's fiber optic cable from the ONU via the DLC to the central office. This latter solution also requires the traffic to go through the ILEC's ATM switch, which again raises issues about the capability of the ILEC's equipment with that of the requesting carrier.

Thus, when a requesting carrier needs an xDSL-capable loop as an unbundled network element and the end user is served via a DLC or fiber-to-the-curb technology, such a loop may be difficult and expensive to provide. First, the "all-copper" alternative may not be available with existing plant, in which case it would be necessary for the

ILEC to string copper wire from the central office to the DLC (or to the ONU in the case of fiber to the curb) at the CLEC's expense. The second alternative – collocation of a DSLAM at or on the remote terminal – is technically feasible, but requires sufficient space in the remote terminal to accommodate the DSLAM of the party requesting collocation.[21] Where space for collocation in the terminal is unavailable,[22] the CLEC or ILEC (at the CLEC's expense) would have to secure a right-of-way for additional space, pour a concrete slab and put in a secured cabinet to accommodate the additional DSLAMs. Sprint estimates that the cost of such an installation would amount to approximately $25,000. The third possible way to get an unbundled xDSL capable loop, in cases where the ILEC employs ONUs or DLCs that utilize the "Integrated Solution", would be to purchase the copper loop from the premises to the ONU or DLC (as the case may be) and purchase the xDSL line card in the ONU or DLC on which the loop terminates. In addition, the requesting carrier would have to purchase ATM transport from the ONU or DLC through the ILEC ATM switch and up to some point of ATM-interconnection with the ILEC. For this to be a workable solution, as noted above, there must be equipment compatibility between the ILEC and the requesting carrier.

In general, Sprint endorses all of the tentative conclusions of the Commission regarding provision of xDSL-capable loops as UNEs where DLCs or similar devices are used. However, it may simply be impractical for competing carriers to use UNEs and collocation to deploy xDSL-based services where intermediate concentration devices are

[21] This solution would not be suitable where the end user is served by fiber-to-the-curb, unless there is copper wire from the remote terminal to the ONU.

[22] In the case of Sprint LTD, approximately 80% of the remote terminals are full and could not accommodate collocated DSLAMs.

used. The difficulties of obtaining xDSL functionality to a customer premises through purchase of UNEs is all the more reason why, if the Commission wishes to foster widespread deployment of advanced services by competing carriers, the Commission should require ILECs to offer xDSL service directly, rather than allow them the possibility of doing so through a separate affiliate instead. Not only would the separate affiliate be forced to endure the difficulties of obtaining UNEs and collocation from the ILEC, but other carriers would as well, placing more demands on scarce resources (e.g., room in the remote terminal for collocated DSLAMs or copper wire between the remote terminal and the central office). ILECs would, of course, still be required to provide unbundled elements on request, but requesting carriers would also have the alternative of buying the entire functionality from the ILEC as a service.

If the ILEC does not offer xDSL services directly, and the Commission is able to effectively divorce the ILEC's interests from those of its advanced services affiliate, these difficulties might increase over time, absent the development of other technological solutions. If the ILEC sees its business primarily as providing conventional analog voice service to residential neighborhoods, economic factors may drive the ILEC to make increasing use of DLCs and fiber-to-the-curb, which in turn augments the difficulty of providing xDSL-capable unbundled loops. If, on the other hand, the ILEC provides xDSL services directly, it will take the potential demand for high speed data services to the home into account in its network planning and engineering decisions, and will have an incentive to make xDSL-capable loops available for its own use (and thus, to other carriers as UNEs).

In any event, the ILECs have a continuing obligation to offer UNEs and collocation at technically feasible points. It is vital that the Commission ensure that the ILECs do not engineer their local plant in such a way that makes it unnecessarily difficult for a requesting carrier to buy unbundled xDSL capable loops and collocation, so as to force them into the "one size fits all" mode of reselling the ILEC's xDSL service. Thus, on a going forward basis, ILECs that foresee demand by end users for xDSL services should be expected to engineer their local plant in such a way as to make reasonable provision for unbundled xDSL-capable loops. They could do so, for example, by installing copper alongside fiber optic cable between the central office and a newly constructed remote terminal, so that an all-copper loop bypassing the DLC would be available. Or, they could size the remote terminal so as to accommodate collocated DSLAMs. Failure to make reasonable provision in new construction (i.e., construction begun after a final order is issued in this proceeding) for unbundled xDSL-capable loops could be deemed an unreasonable and anticompetitive practice.

If an ILEC or an advanced services affiliate thereof offers xDSL service through a DLC-delivered loop, the ILEC must enable an unaffiliated requesting carrier to offer the same or similar service to end users served by that DLC at parity. If it is not capable of doing so, then it (or its affiliate, as the case may be) should not be able to offer service to end users served by that DLC. Furthermore, any solution to the problem of offering xDSL services through a DLC that the ILEC uses for itself or for an affiliate must be offered to non-affiliated carriers in complete parity with respect to quality of service,

provisioning intervals and the like.[23] Where alternative unbundling methods must be utilized to give the requesting carrier parity of treatment with the ILEC or its affiliate (see ¶174), the service provided to the requesting carrier should be comparable to that provided by the ILEC or its affiliate, and the requesting carrier should not be required to bear any additional costs not borne by the retail end user or the affiliate that are related to the alternative solution.

The Commission is correct in suggesting (at ¶175) that the ILEC's control over the remote terminal and the electronics utilized may limit the ability of end users to access a full range of competitive services, e.g., because the xDSL customer premises equipment employed by the ILEC may not be fully compatible with that used by another carrier. This is a problem today because of the lack of any industry standards and cannot be easily resolved until such standards exist. As suggested above, the Commission should adopt rules requiring compliance with industry standards within a reasonable period of time after those standards are developed.

Where collocation is desired at a remote terminal and only a limited amount of space exists, a first-come, first-served policy, with the caveats discussed below, is far preferable to the auction alternative also suggested in ¶175. An auction would simply allow the ILEC to extract monopoly rents from an essential facility and would be inconsistent with the encouragement of widespread competition for advanced services. Two caveats that should apply to a first-come, first-served approach for allocating scarce

[23] Because the provisioning interval depends so greatly upon the particular technical solution employed, Sprint is not prepared at this point to recommend what a standard provisioning interval (that would be binding in the absence of exceptional circumstances) should be.

space in remote terminals are: (1) strict measures should be taken to guard against warehousing of space – perhaps much stricter than the six month period suggested above for requiring occupation a collocation cage in a central office once the space is ready for occupancy; and (2) if there is only enough space in the remote terminal to accommodate one collocator, and the ILEC offers xDSL services through an advanced services affiliate, the affiliate should not be eligible to be the only collocator, unless the ILEC offers acceptable alternate solutions to give unaffiliated carriers the ability to offer services at parity with its affiliate. Another possibility that might be considered in lieu of a first-come, first-served approach would be to have the ILEC publish a date for applications to collocate and choose the winning applicants by lottery. Again, to ensure that the lottery does not encourage speculative applications, strict anti-warehousing measures would need to be in place.

Sprint agrees with the tentative conclusion in ¶175 that the ILEC may not take all the available space in a remote terminal and then transfer ownership of equipment in a remote terminal to an advanced services affiliate. The Commission should not even entertain comments to the contrary in this proceeding, since any such device would clearly conflict with the Commission's determination that to escape ILEC responsibilities the affiliate would have to be separated from the ILEC and treated non-discriminatorily vis-à-vis an unaffiliated carriers. See ¶¶92, 96 of the NPRM.

Finally, Sprint does not believe any technical issues, in terms of network reliability, would arise from subloop unbundling and collocation in remote terminals. These are essentially security issues and administrative issues, and the same security

procedures found reasonable for the comparable form of central office collocation should apply to collocation in remote terminals.

E. Effects Of Additional Requirements For Local Loops (¶177)

Sprint does not believe the Commission should be concerned about the effect its proposed actions might have on existing negotiated or arbitrated interconnection agreements, state requirements or pending state proceedings. The public policy of encouraging deployment of advanced services should override any such concerns. Furthermore, the Commission should, as it has proposed, make its rules and policies herein minimum requirements that the states are free to expand on. If it does so, its actions herein should not interfere with any consistent existing state rules that go beyond these requirements.

V. UNBUNDLING OBLIGATIONS UNDER § 251(c)(3) (¶¶178-184)

Because of differences in equipment and network design from one ILEC to the next, Sprint believes that it may be impossible for the Commission to precisely define all unbundled elements that may be necessary to enable requesting carriers to provide xDSL services through the use of the ILEC's network. A list of possible UNEs would include:

Loops
xDSL-capable loops
Subloop elements (including the loop from the customer premises to the ONU or from the customer premises to the remote terminal, and loops between the remote terminal and central office)
DSLAMs
xDSL line cards used in DLCs or ONUs

Depending on the particular ILEC's network configuration and capabilities, it may not be necessary to require each ILEC to offer all of the above as UNEs, particularly if it does not offer xDSL services directly.

The Commission also seeks comment in ¶184 on measures that the Commission should take to provide regulatory relief from the obligations of §251(c) for ILECs that choose to offer advanced services on an integrated basis. The simple answer can be expressed in one word: none. As indicated above, ILECs already have ample incentive, under the existing regulatory regime, to offer xDSL services directly. Five of the six largest ILECs are already doing so, and three of those carriers either initiated or expanded their offerings after the NPRM was released herein. As the discussion in Section IV makes clear, if the Commission wishes to encourage deployment of advanced services, carriers competing with incumbent LECs must have a wide range of tools at their disposal. To relieve the ILEC of its obligations to interconnect, to allow collocation, and to provide UNEs, notice of network changes, wholesale discounts on retail services – and even the duty to negotiate such issues in good faith with such carriers – would sanctify an ILEC monopoly over advanced services that would run counter to the core purposes of the 1996 Act. In view of the findings in the MO&O that advanced services are no different than ordinary POTS in terms in the ILECs' duties under §251(c) of the Act, and that the Commission lacks power to forebear from that provision until it has been fully implemented, Sprint is frankly at a loss to understand what type of "regulatory relief from the obligations of §251(c)" the Commission could have in mind.

VI. RESALE OBLIGATIONS UNDER 251(c)(4) (¶¶185-189)

Sprint fully supports the Commission's tentative conclusions that advanced services that are generally marketed to residential or business users are subject to the

§251(c)(4) resale obligation regardless of whether they are classified as telephone exchange service or exchange access.

VII. LIMITED INTRALATA RELIEF (¶¶190-196)

Although in the MO&O, the Commission flatly rejected wholesale LATA boundary modifications to allow BOCs to provide otherwise-prohibited interLATA data services, the Commission, in this portion of the NPRM, tentatively concludes that there may be some circumstances where LATA boundary modifications should be approved to allow ILECs to provide advanced services to school districts and the like or to subscribers in rural areas. To this end, the Commission seeks comment (in ¶195) on the type of documentation that BOCs should submit in order to qualify for such boundary modifications.

Sprint believes that no LATA boundary modifications are necessary in order to allow adequate deployment of advanced services. Competition is the engine that is most likely to drive deployment of advanced services into as many rural areas as possible and to make such services available to favored entities such as school districts, universities and health care facilities, just as competition drove the deployment of the nationwide fiber optic networks that enable high quality, high bandwidth services even to exist. Sprint is not prepared to say that there will never be an exception warranting limited LATA boundary relief, but believes that such situations will necessarily be so infrequent and rare that they must be addressed on a case-by-case basis. Thus, it is impractical to set forth the type of documentation that would automatically qualify the BOC for LATA

boundary modifications, as suggested in ¶195. Rather, all that the Commission should do at this point is insist that in order for any such application to be entertained seriously, a full and complete factual showing, including detailed descriptions of efforts to obtain needed capacity or services from interLATA service providers, should be included.

In this regard, the recent Bell Atlantic-West Virginia "emergency" request regarding Internet access in the state of West Virginia is an example of an application that should be regarded as deficient on its face.[24] In that application, BA-WV asserted (at 3) that AT&T and other carriers had been contacted but that none of these carriers had the necessary capacity. BA-WV failed to indicate the dates of these alleged contacts, who had initiated the contacts, the names of the persons contacted, etc. By the time the pleading cycle was closed, the interexchange carrier partner of the Bell Atlantic Internet affiliate had informed the Commission that it had in fact secured the necessary capacity, thus belying the "emergency" nature of the request.[25] It also developed that contrary to BA-WV's assertions, AT&T had the necessary capacity but had not been contacted; rather, the IXC partner of the Bell Atlantic Internet affiliate had contacted a reseller of AT&T's service.[26] Not only the interested private parties, but the Commission and its staff, were put to unnecessary effort to analyze and respond to an obviously premature

[24] Emergency Petition of Bell Atlantic-West Virginia for Authorization to End West Virginia's Bandwidth Crisis, filed July 22, 1998 (File No. NSD-L-98-99).

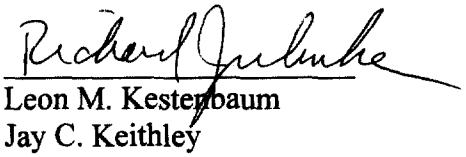
[25] Letter dated August 10, 1998 from David L. Goret, Icon CMT Corp.

[26] AT&T Corp. Opposition, filed August 10, 1998, at 3-5.

and ill-founded filing by BA-WV. The Commission should not encourage similar filings by others.

Respectfully submitted,

SPRINT CORPORATION



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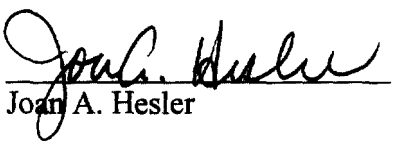
September 25, 1998

CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing Comments of Sprint Corporation was Hand Delivered or sent by United States first-class mail, postage prepaid, on this the 25th day of September, 1998, to the below-listed parties:



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